6. MAJOR IMPACTS AND MITIGATION

In accordance with 40 CFR 1505.3, the FAA will take appropriate steps, through Federal funding grant assurances and conditions, PFC "use" approvals, airport layout plan approvals and contract plans and specifications to ensure that the following mitigation actions are implemented during project development. The FAA will monitor the implementation of these mitigation actions as necessary. The approvals contained in this ROD are specifically conditioned upon full implementation of these mitigation measures. These mitigation actions will be made the subject of a special condition included in future airport grants to the STLAA.

A detailed environmental analysis of the potential environmental impacts resulting from the construction and operation of the selected alternative was accomplished as part of the FEIS. Two study periods were examined, 2002 and 2015. The year 2002 is projected to be the first year that the new runway and associated development will be operational. The year 2015 is the outside planning period of the MPS and when most of the ALP's recommendations will be operational. Twenty-two different environmental impact categories were examined.

SUPPLEMENTAL TECHNICAL REPORTS

Supplemental technical reports have been prepared, published and distributed separately from the FEIS. These reports address the potential direct and indirect effects to resources protected under special Federal laws. The following lists each of these reports and the relevant Federal law:

- Section 303 and 6(f) Evaluation - *49 U.S.C. Sections 303* [Recodified from and commonly known as Section 4(f) of the Department of Transportation Act 1966]; and the Land and Water Conservation Fund Act;
- Section 106 Documentation associated with the Final Environmental Impact Statement - Section 106 of the National Historic Preservation Act of 1966; and
- Draft and Final General Conformity Determinations - Federal Clean Air Act and State of Missouri requirements.

IMPACTS AND MITIGATION

This section of the ROD includes a summary of the mitigation measures, discussed more fully in the FEIS, Section 6.3, for each environmental impact category.

The primary responsibility for implementation of the mitigation program rests with the STLAA. The FAA will have oversight responsibility and will condition grant agreements and/or PFC "use" approvals upon completion of the mitigation program by the City of St. Louis. Mitigation measures for those impact categories where mitigation measures are necessary to avoid or minimize significant environmental impacts, as well as identified or adopted monitoring and enforcement programs, are summarized below. The FAA finds that all practical means to avoid or minimize environmental harm have been adopted, through appropriate mitigation planning.

Noise and Compatible Land Use Impacts and Mitigation

Because of the effects of the introduction of quieter Stage 3 aircraft, noise levels are projected to decrease in future years. For this reason, even with the selected alternative, there will be a significant reduction in land area and population impacted by noise in the years 2002 and 2015 when compared to current conditions. For future year comparisons, Alternative W-1W will impact fewer people within the Day-Night Equivalent Sound Level (DNL) 65 dB contour than Alternative S-1, but more than Alternative X-1, in both 2002 and 2015. A review of the proposed roadway improvements and realignments for Alternative W-1W indicates that traffic noise impacts would be minimal. Noise impacts resulting from the proposed airport development will be mitigated through measures identified in Section 6.3.1 of the FEIS.

The noise mitigation program for the selected alternative consists of operational and land use control measures. The program was developed in a manner which is consistent with the previous and ongoing noise mitigation and abatement programs implemented by the STLAA. The main objective of this program is to mitigate noise impacts associated with the selected alternative's aircraft operations by recommending appropriate measures consistent with the approved 1997 Part 150 Noise Compatibility Program Update. Although the mitigation program outlined below is designed to be consistent with the ongoing Lambert Part 150 process, the mitigation measures described below are associated with the specific impacts of Lambert's proposed expansion. It is the obligation of the City of St. Louis to implement the mitigation for the expansion.

The land use mitigation program is based on the potential noise impacts identified through the comparison of the year 2002 No-Action and selected alternative noise contours. The year 2002 selected alternative noise contours were chosen for the mitigation program, because they are larger in size than the year 2015 noise contours. The mitigation program consists of:

Land Acquisition for Mitigation of Noise Impacts Due to Alternative W-1W

The STLAA will acquire all residential and residentially zoned areas located within the 70 DNL noise contour for the year 2002, as well as all mobile home parks within the 65 DNL noise contour. It is anticipated that any of these land uses not acquired through the STLAA's ongoing Part 150 acquisition program for the existing airport will be acquired through the acquisition program for the construction of Alternative W-1W.

Voluntary Noise Mitigation Program

The STLAA will offer a voluntary noise mitigation program to eligible homeowners (located in the 65 DNL noise contour for the year 2002). Each eligible homeowner within this area will be offered the choice of one of three options: sales assistance, sound insulation or easement purchase. In exchange for one of these three options, the airport will receive an avigation easement.

Noise Mitigation Assurance

This element of the noise mitigation program enables STLAA to concentrate the voluntary and land acquisition measures on the areas actually experiencing the annual average DNL noise levels predicted in the FEIS, Section 5.1, after the opening of the new west runway. Using a permanent noise monitoring system, STLAA will monitor and analyze the noise levels resulting from actual, normal operation of the new west runway. If that actual experience diverges from the contours projected, an adjustment will be made to the boundaries of the areas eligible for the mitigation programs. The STLAA will reassess the average-annual noise characteristics of Lambert approximately 18 months after the new runway opens.

Accommodate New Runway in the Permanent Noise Management System

The STLAA is in the process of installing a new permanent noise management (monitoring) system, which will assist in the management of the noise program and monitor the effectiveness of operational noise mitigation measures. The STLAA will add or relocate noise monitoring stations to monitor operations on Runway 12W/30W and associated flight tracks. Appropriate sites will be selected to provide data for monitoring of Runway 12W/30W to assist STLAA in re-assessing the boundaries of the mitigation programs.

Noise Abatement Departure Procedures

This voluntary procedure, already in use for existing runways, involves the reduction of thrust for departing air-carrier aircraft to reduce noise levels in sensitive areas. Once

Runway 12W/30W is commissioned (or operational), commercial jet airline departures will be requested to use the voluntary "Distant Noise Abatement Departure Procedure," as defined in FAA Advisory Circular 91-53A.

Social Impacts and Mitigation; Environmental Justice Impacts

Residential and business displacements are the principal social impacts associated with the selected alternative. The selected alternative will result in the acquisition and relocation of numerous residences and businesses. Other direct social impacts involve the relocation of community facilities such as schools and churches. A large degree of community disruption will be experienced in the City of Bridgeton due to the selected alternative. All acquisitions and relocations will comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. STLAA will develop a detailed plan for the relocation of all properties including residential, commercial, public, and nonprofit organizations. The program will be consistent with FAA Advisory Circular 150/5100-17, Land Acquisition and Relocation Assistance for Airport Improvement Program Assisted Projects.

Surface transportation patterns will be altered and temporarily disrupted with the selected alternative. Measures to mitigate surface transportation impacts are discussed in Section 6.3.13 of the FEIS and later in this Section of the ROD. The acquisition and relocation of residential and commercial properties will be required to accommodate the proposed surface transportation improvements associated with the selected alternative.

Acquisition of property will result in the loss of assessed valuation and, therefore, tax revenue to local taxing units through the year 2002. However, this loss should be offset between the years 2002 and 2015 by the development of commercial, industrial, office, and mixed land uses in or adjacent to the previously acquired areas. For that reason and because per capita tax revenues will likewise be maintained, formal mitigation actions for tax base impacts are not required. Implementation of the selected alternative will not result in disproportionately adverse impacts on minority or low-income populations. For example, the racial characteristics within the acquisition areas are approximately 95 percent white; 3 percent black; and less than 2 percent other races. Low-income persons make up approximately 1.5 percent of the total number of impacted persons. The measures to mitigate social impacts, discussed in Section 6.3.2 of the FEIS, are summarized below.

Acquisition and Relocation Program

This program will minimize the impacts of property acquisition and relocation on displaced residents, businesses and churches by providing services to educate, inform

and respond to the needs of those affected, both individually and collectively. This program will also provide for the acquisition and relocation of public and private schools and other public facilities included within the development area for the selected alternative. This program will include measures to minimize the adverse effects associated with the displacement of these facilities.

Acquisitions and relocations will proceed in keeping with the following mitigation objectives:

- Comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act.
- Comply with the Missouri Airport Relocation Act, R.S. Mo. Section 305.600, *et seq.*
- Develop a detailed Relocation Plan that addresses the specific needs of relocated residents, such as access to employment, access to social services, residency in existing school districts, and access to commercial facilities.
- Educate residents about the Uniform Act and the STLAA's Relocation Plan by holding community meetings prior to the actual acquisition process.
- Work to maintain neighborhood relationships by providing comparable housing areas that can accommodate multiple households from acquisition areas.
- Coordinate with the St. Louis County Housing Authority, the Missouri Housing Development Corporation and the U.S. Department of Housing and Urban Development to provide access to housing assistance programs that meet the identified needs of displaced households.
- Provide information to the real estate industry on the project displacements and acquisition/relocation process. Communicate with real estate agents through the St. Louis Association of Realtors to facilitate access to the real estate market for needed replacement properties.
- Work closely with churches through the relocation process to determine facility needs based on net impact to church membership and to maintain church communities.
- Work with school districts and private schools to determine facility needs based on the net student enrollment impacts.

- Relocate acquired schools in existing enrollment areas to cause the least disruption to students.

Acquisitions related to construction will be completed before the opening of the new runway, estimated to be the year 2002. For those acquisitions not necessary for construction but for noise mitigation, the airport shall have made an offer for acquisition prior to the opening of the new runway, estimated to be the year 2002.

Induced Socioeconomic Impacts

Between 1998 and 2002, economic impacts of the airport expansion project and surface transportation improvements will be related primarily to construction employment, loss of market area population for certain retail developments, and the acquisition of commercial properties. The selected alternative will generate significantly greater construction employment than the No-Action Alternative. However, considering the long-term impacts of the airport, these short-term construction employment increases will not be significant. Loss of market area population will create isolated impacts for several retail establishments along Natural Bridge Road and Pear Tree Lane with the acquisition and relocation of commercial property. These localized impacts will not be significant when assessed from a regional perspective or for the local economy but could be significant to individual businesses, especially those businesses that depend on neighborhood patronage. Impacts to the local economy and the tax base will be short term, as anticipated induced growth and development resulting from airport expansion will replace initial tax base losses.

Since no adverse impacts are anticipated as a result of induced socioeconomic impacts, mitigation is not required.

Air Quality Impacts and Mitigation

Lambert is located in an area designated as moderate non-attainment for ozone and maintenance for carbon monoxide (CO). Based on recent monitoring data, the City of St. Louis may be redesignated by EPA as serious non-attainment for ozone. Air emissions from aircraft, motor vehicles, ground support equipment and adjacent roadway improvements associated with Lambert are expected to increase somewhat in the future as enplanements and aircraft operations increase. However, comparison of the Build and No-Build Alternative in 2002 shows that emissions resulting from the selected alternative are predicted to be lower, in nearly all cases, than emissions from the No-Build Alternative. Project-related emissions, including construction, do not exceed *de minimis* levels in 2002 for any pollutant (including nitrogen oxides, CO and volatile organic compounds (VOCs)). In spite of the increased airport capacity, emissions reductions result from decreased aircraft delay and queuing times attributable to the proposed improvements to Lambert. The only exception to this is the

predicted increase in NO_X emissions over the No-Build condition some time between the years 2002 and 2015. However, this long-range (2015) estimate is beyond SIP forecasts and potentially imprecise due to likely changes in the future aircraft fleet and fuel combustion technology. These long-range estimates are subject to change, should only be used for planning or information purposes and are not appropriate for conformity determination. Notwithstanding the above, total emissions associated with Lambert are not expected to result in any violation of the National Ambient Air Quality Program (NAAQS), nor interfere with the goals of the State Implementation Plan (SIP).

Lambert-related emissions for aircraft and fueling are accounted for in the SIP through the year 2005. The action does not cause or contribute to a violation of the NAAQS. The project-related emissions are not regionally significant. Based on these findings, the FAA determined, in its Final General Conformity Determination, that the planned improvements to Lambert conform to the goals of the SIP and meet the requirements of the General Conformity Rule and the Clean Air Act.

Both EPA and MDNR reviewed the Draft General Conformity Determination developed for this project and determined that all of the relevant issues were addressed (see FEIS Appendix A, EPA letter dated November 7, 1997, and MDNR letter dated November 20, 1997). On June 29, 1998, the FAA published in the *St. Louis Post Dispatch* notice of its Final General Conformity Determination. Copies of the Final General Conformity Determination were provided to EPA and MDNR. In accordance with the Clean Air Act, and EPA General Conformity Regulations, the FAA has demonstrated that the selected alternative will conform with the Missouri SIP for achieving and maintaining the NAAQS for ozone and carbon monoxide, respectively.

As noted in this ROD, Section 11.C, after consultation with the Missouri Department of Natural Resources (MDNR) (the Governor's designated agency for air quality), the Governor of Missouri certified that there is a reasonable assurance that the project will meet all applicable air quality standards in accordance with Section 509(b)(7) of the Airport and Airway Improvement Act, recodified under *49 U.S.C. 47106(c)* (letter dated August 11, 1998, in Appendix I).

Further Studies and Ongoing and Planned Activities to Minimize Air Pollution

The FAA and STLAA have agreed to explore EPA's request to establish additional air quality monitors in the airport area. Also, the MPS identified certain terminal area improvement concepts that included roadway, parking structure, transit and terminal structure developments. These improvements have the potential to influence air quality for workers, passengers and visitors. However, the MPS did not provide design-specific details to enable the meaningful analysis of the carbon monoxide impacts of future terminal facilities. The FAA and STLAA have agreed that when terminal design

progresses sufficiently, the STLAA will conduct a carbon monoxide hot-spot analysis for terminal expansion to ensure that the terminal structure is designed efficiently from an air-quality standpoint. The results of the terminal carbon monoxide hot-spot analysis will be submitted to EPA and MDNR.

While specific measures to mitigate for air-quality impacts were not required for the preferred alternative, some air-pollutant minimization efforts were considered reasonable and proposed by STLAA. Ongoing or planned STLAA air-quality minimization measures, contained in Section 6.3.3 of the FEIS, are summarized below:

- **Continued Membership in the St. Louis Regional Clean Cities Program:** The City of St. Louis, the owner and operator of Lambert, is a participating member of the St. Louis Regional Clean Cities Program, which is a partnership of public- and private-sector entities, who encourage voluntary emissions reductions through awareness, education and demonstration.

- **Conversion to Alternative, Cleaner Burning Fuels:** Lambert is using alternative, cleaner burning fuels in its maintenance vehicles. This program involves the retrofit or procurement of airport service vehicles capable of burning alternative fuel types, which emit fewer pollutants. An alternative fuel station will supply fuel for airport service vehicles. Construction of this facility is scheduled for 1998.

- **Use of Low Volatile Organic Compound (VOC) Traffic Coatings:** To limit both VOC and hazardous air pollution emissions, STLAA has switched to the use of coating materials for the airfield and roadway improvements, which emit extremely low levels of VOCs. These materials include paints and asphalt-seal coating.

- **Continued Compliance with the Stationary Source Operating Permit and Air Emission Source Survey:** STLAA has voluntarily chosen to limit its annual emissions below 100 tons per year for hazardous air pollutants. Lambert is placing a cap on the amount of fuel consumed at the East and West Power Plants.

Water Quality Impacts and Mitigation

Many of the routine operations that will occur at Lambert as a result of the selected alternative will affect the water quality of Coldwater Creek. Stormwater runoff from runways, taxiways, apron areas, storage areas, gates and surface transportation improvements has the potential to be contaminated. These areas may contain

pollutants such as oil, grease, sediments and deicing agents that may require detention and/or treatment. In addition, effluent from oil/water separators or waste reduction activities on the airport may also contribute to degradation of water quality. As runoff from the above activities is subject to the requirements of the NPDES permit process, all future stormwater discharges will be required to comply with the permit-established pollutant limits.

As noted in Section 11.C of this ROD, after consultation with the MDNR (the Governor's designated agency for water quality), the Governor of Missouri certified that there is a reasonable assurance that the project will meet all applicable water quality standards in accordance with Section 509(b)(7) of the Airport and Airway Improvement Act, recodified under *49 U.S.C. 47106(c)* (letter dated August 11, 1998, in Appendix I).

The proposed airport improvements will result in an increase in potable water demand and wastewater generation. However, with the acquisition of additional land for airport development and noise compatibility, overall or net airport area water demand and wastewater generation will be less than the existing airport area demand. Proposed water quality mitigation measures are described in detail in Section 6.3.4 of the FEIS and summarized below:

- **Implement Glycol Deicing Master Plan System:** Airlines operating at Lambert currently use glycol fluids for the deicing of aircraft. This fluid has the potential to pass through the airport's drainage system into local surface waters. The airport is currently in the process of implementing a Glycol Deicing Master Plan, which centralizes the collection of deicing fluids for recycling and treatment. It is anticipated that this system will handle 90 percent of the storm events encountered during the deicing season. In addition, a central deicing facility for narrow body aircraft will be used when applicable for westbound departures from existing Runways 30R and 30L.

- **Implement Stormwater Management Options:** Lambert's NPDES permit regulates the discharge of stormwater to Coldwater Creek by imposing effluent limitation, monitoring and reporting obligations. The airport has undertaken voluntary management options to reduce pollutants entering the stormwater system. These include the use of potassium acetate and heated sand for runway/taxiway deicing, the use of remote aircraft deicing facilities and diversion and treatment of runoff containing deicing fluid to wastewater treatment plants. The STLAA will implement similar management options for the new runway and taxiways.

- **Create Stormwater Detention Areas For Attenuation of Stormwater Runoff:** Runoff from new impervious areas (associated with buildings, parking, apron, runway and roadway areas) will be directed to stormwater detention areas for peak discharge attenuation. These detention areas may consist of grassed swales, dry detention areas or underground vaults, which will allow stormwater to be detained prior to discharging to Coldwater, Cowmire or Maline Creeks.

- **Increase Airport Potable Water Storage and Pressure Capacity:** Potable water storage tank and booster pump capacity will be evaluated to ensure that adequate potable water and fire-protection supply and pressure requirements are met.

- **Review Wastewater Discharge Capacity:** The airport will be required to consult with the Metropolitan Sewer District (MSD) on future wastewater discharges to determine whether methods for increasing wastewater discharge capacity are needed.

- **Close Wastewater Lines in Acquisition Areas:** Existing wastewater lines will be removed or plugged prior to discharging to the MSD wastewater main lines. Otherwise, inflow of stormwater could occur through broken pipe joints and contribute to additional flow to the wastewater treatment plant. Closing abandoned lines will help offset future wastewater contributions from the airport expansion by reducing infiltration flows to the wastewater treatment plant.

With regard to normal airport operations, the airport sponsor, through its grant assurances with the FAA, commits to suitably operating and maintaining the airport and all facilities in a safe and serviceable condition and complying with all applicable Federal laws, regulations, executive orders and other mandatory requirements related to water quality.

Section 303 and Section 6(f) Impacts and Mitigation

The selected alternative will directly affect four park and recreation area Section 303 sites. Three of the sites adversely affected by the selected alternative are also protected under Section 6(f). The selected alternative, including the associated surface transportation improvements, also has the potential to directly and indirectly affect several historic and archaeological sites protected under Section 106 of the National Historic Preservation Act. These sites will be mitigated through a Section 106 Memorandum of Agreement (MOA) (Appendix H of this ROD). The project will also have indirect adverse impacts upon Section 303 and 6(f) sites. The selected

alternative will not result in any incompatible park areas due to aircraft noise. In terms of avoidance alternatives, review of the tiered alternatives evaluation prepared in Section 3.0, Alternatives, of the FEIS, indicates that there are no prudent and feasible alternatives to the use of the Section 303 and 6(f) sites.

The FAA has coordinated with the public and agencies having jurisdiction over the affected sites to determine site significance and to develop mitigation measures necessary to meet Section 303 and 6(f) requirements. Generally, the entity responsible for conversion of the Section 6(f) parkland to other use is the local government entity where the Section 6(f) facilities are located, in this case, the City of Bridgeton. By letter dated January 16, 1997, the City of Bridgeton, through its counsel, has advised that it does not intend to initiate the 6(f) conversion process. A coordination meeting with the City of Bridgeton was held on April 18, 1997, with the mayor and key staff members to discuss Draft EIS comments relative to Section 303/6(f) issues, and to solicit input from the City of Bridgeton regarding future plans and goals for their parks and recreation program. Items listed in the City of Bridgeton's comprehensive plan were discussed regarding candidate mitigation options. The City of Bridgeton has stated that it will not initiate the Section 6(f) conversions for Lambert.

Since the FAA is issuing this ROD that approves the Federal actions needed to implement the selected alternative, the City of St. Louis and the STLAA will initiate condemnation proceedings and take possession of the parklands. The City of St. Louis and STLAA will then be responsible for the conversion of the 6(f) property as the owner of the parkland and local project sponsor. MDNR will be the authorized agency to document the adequacy of the replacement lands (see FEIS Appendix A, Department of Interior (DOI) letter commenting on FEIS.)

Measures to minimize harm to Section 303 and 6(f) resources are summarized in Section 6.3.5 of the FEIS. The Section 303 and 6(f) Evaluation, published separately, provides detailed information about the effects of the proposed improvements on Section 303 and 6(f) resources and describes the mitigation plans developed. The STLAA will provide mitigation that fulfills both the Section 303 and Section 6(f) requirements. Conceptual mitigation plans have been developed to minimize harm to the affected resources. The mitigation measures proposed in Section 6.3.5 of the FEIS are summarized below.

Develop and Replace Existing Parks and Associated Facilities

The selected alternative will directly affect three Section 6(f) properties, consisting of a portion of Oak Valley Park (approximately 5 acres), all of Freebourn Park (approximately 14 acres), and Cardinal Park (approximately 4 acres). The selected

alternative will also affect one Section 303 resource, Bridgeton Memorial Park, which is approximately 3 acres in size.

Candidate replacement areas have been identified and are under consideration as mitigation for both Section 303 and Section 6(f) direct effects at Freebourn, Oak Valley and Cardinal parks. Definitive locations will be determined during final design of the project. Playgrounds, ballfields, ball courts and fitness and nature trails are some of the potential recreational opportunities that could be provided at each new site. Potential mitigation areas exceed an acre-for-acre replacement ratio to provide the opportunity for maximum flexibility in the actual types and locations of facilities. Because the STLAA has committed to exceeding an acre-for-acre replacement ratio as well as meeting fair-market value requirements, the proposed mitigation exceeds the minimum mitigation requirements and provides significant improvement to the recreational resources in the affected area.

The selected alternative will result in direct impacts to one Section 303 resource (Bridgeton Memorial Park), which is not a Section 6(f) resource. STLAA proposes to provide separate mitigation for the direct effects to this site. Candidate replacement property for this Section 303 resource, which is approximately 3 acres in size, would be located near other cemetery property close to the City of Bridgeton. In addition, the construction of a new neighborhood park in south Bridgeton, to supplement those facilities already in place, is also under consideration. This activity will commence when the Property Acquisition Program is implemented.

Expand and Enhance Existing Parks and Recreational Areas

Indirect effects associated with the selected alternative have been identified at four sites: O'Connor Park, Berry Hill Golf Course, Oak Valley Park and Carrollton Buffer Zone. As mitigation for these effects, enhanced vehicular access to these sites is under study. In addition, a new bicycle trail is being considered to link the City of Bridgeton's recreation resources to the regional bicycle network. This link to the regional bicycle network would occur via the Missouri Highway 370 bridge leading to St. Charles and would directly connect with the Katy Trail. A bicycle facility is already provided on the bridge. Potential trailheads could be located at the Bridgeton Municipal Athletic Complex and the (proposed) expanded O'Connor Park/Carrollton Buffer Zone Park Complex. The proposed new bicycle trail would increase and replace lost patronage, enhance the area's existing bicycling opportunities, provide a logical and accessible origin/destination point for trail users and be consistent with regional bicycle plans.

In addition to the proposed recreational bicycle trail, local roadway improvements associated with the selected alternative would provide the opportunity to integrate

paved, striped bicycle lanes as a part of these roadway improvements. New bicycle lanes would enhance existing multi-modal transportation options, including linking community and neighborhood parks within the City of Bridgeton, as well as ultimately providing access to the regional trail network. Consultation with local and regional planning agencies has indicated that such improvements are consistent with long-range multi-modal plans for the area. The STLAA will assist in funding as appropriate. This activity will be scheduled concurrent with airport expansion.

Reasonably Equivalent Replacement Of Converted DOI Section 6(f) Lands

Mitigation for Section 6(f) impacts will consist of replacement of the converted Section 6(f) lands with land of equal or greater value and usefulness. At the time of conversion, appraisals will be conducted in accordance with the Uniform Appraisal Standards for Federal Land Acquisition (Interagency Land Acquisition Conference, 1992) to assure that fair market values of the replacement facilities will be at least equal to that of any converted Section 6(f) sites. This activity will commence when the Property Acquisition Program is implemented.

Historic, Architectural, and Archaeological Impacts and Mitigation

An evaluation of the potential impacts to historic and archaeological resources was accomplished in accordance with the requirements of Section 106 of the National Historic Preservation Act of 1966, as amended. The FAA has determined that the selected alternative will have an adverse effect on historic resources and may have an effect on archaeological resources eligible for listing in the National Register. The State Historic Preservation Officer (SHPO) has concurred in this determination.

The FEIS states that in the event artifacts are discovered during construction activities, construction in the area will be halted immediately in order to record the finding, determine its level of significance, and develop appropriate mitigation measures.

An MOA has been prepared stipulating measures to be implemented to avoid, reduce or mitigate the adverse effects from this project on historic properties. The Missouri SHPO, the Advisory Council on Historic Preservation (Advisory Council), the STLAA, and the City of Bridgeton have been consulted on the MOA and provided comments on the agreement document throughout its development (see FEIS Appendix N-1, November 18, 1997, letter from MDNR, and November 14, 1997, letter from City of Bridgeton). The FAA solicited final comments on the MOA from the consulting parties, including the City of Bridgeton.

The MOA, in compliance with Section 106 of the National Historic Preservation Act, has been signed by the FAA, STLAA and MDNR. The City of Bridgeton did not concur with

the MOA and chose not to sign the agreement. The agreement was executed by the Council on May 29, 1998. As part of the FAA's comprehensive efforts to involve all appropriate commenters, the FAA will continue to work with the appropriate agencies. In reaching its conclusions relative to the National Historic Preservation Act, the FAA's findings are supported by the FEIS, and the Department of Transportation Section 303/Section 6(f) Evaluation. Execution of the MOA satisfies the FAA's Section 106 responsibilities for all actions associated with the selected alternative. The stipulations of the MOA are discussed in Section 6.3.6 of the FEIS. A final copy of the entire MOA is included in Appendix H of this ROD.

Memorandum of Agreement

Specifically, the stipulations within the MOA, summarized below, ensure that:

- The FAA will consult with the SHPO and the Council to seek ways to reduce or mitigate the adverse effects on the five (5) above ground historic properties within the undertaking's APE. These properties include the Bridgeton Inn, the Airport News Building, the Emmanuel Blum House, the Blum Store, and the De Hatre House.

- The FAA will prepare a preservation management plan, in consultation with the SHPO, that ensures the long-term protection of archaeological resources within the APE of the selected alternative which the FAA and the SHPO agree are considered eligible for listing on the National Register of Historic Places and that can be preserved in place.

- Those sites that the FAA and the SHPO agree are considered eligible for listing in the National Register of Historic Places and that cannot be preserved in place shall be treated in accordance with a data recovery plan.

- As the Village à Robert Cemetery (which is encompassed by the current Bridgeton Memorial Park Cemetery) cannot be preserved in place, it shall be treated in accordance with a data recovery plan.

The MOA also states that all human remains and funerary objects excavated during the data recovery will be reburied in a location where their subsequent disturbance is unlikely and in a manner as similar as possible to the manner in which they were originally interred. The location and method of reburial, and the memorialization and commemoration of the reburial site(s), will be made in consultation with descendants of individuals that were buried within the cemetery.

Biotic Communities Impacts

The selected alternative will impact upland and wetland communities. Although the project will reduce existing vegetation and small, fragmented areas of wildlife habitat, none of the affected areas are characterized by unique vegetative patterns. Development will impact biotic communities within the Cowmire Creek watershed, in addition to those of the Coldwater Creek watershed. The project will place aircraft at lower altitudes over the Missouri River floodplain, which may have the potential to disrupt feeding and nesting activities of birds in a flyway area. However, the anticipated impacts will be minimal and will not require mitigation.

Threatened and Endangered Species Impacts

Several Federally listed plant and animal species have historically occurred in the airport area. Based on information obtained and correspondence received, the expansion project for Lambert would not have an effect on Federal or state listed threatened and endangered species or areas designated as “critical habitat” by the U.S. Fish and Wildlife Service (FWS). In accordance with Section 7 of the Endangered Species Act, the FAA’s consulted with the FWS. The FWS concurred that Alternative W-1W will likely have no adverse effects on listed species or their habitats (letter dated September 1, 1994, in Appendix A of the FEIS). Therefore, mitigation measures are not required.

Wetlands Impacts and Mitigation

The airfield development and associated surface transportation improvements will result in impacts to existing wetlands. The various types of impacts will include loss of wetlands as a result of earthwork or construction, removal of existing vegetation and re-vegetation with grasses, or the clearing of trees and shrubs to ground level. Based on the conceptual plans used in the preparation of the FEIS, the selected alternative will impact approximately 9.7 acres. The majority of the wetlands that will be impacted have been previously disturbed and exhibit low habitat values. Their current status exhibits erosion, dumping, loss of canopy cover and extensive ditching.

Final design plans will be prepared in such a manner as to avoid, minimize and mitigate wetland impacts to the greatest extent practicable, as required by applicable rules and regulations. These plans will be developed during the permitting process and as construction plans are finalized. A formal jurisdictional wetland delineation with agencies having jurisdiction over this project will be conducted during the permitting process. Wetlands have been avoided to the extent practicable. Measures to mitigate

wetland impacts have been developed, are contained in Section 6.3.7 of the FEIS and summarized below.

- **Enhance and Replace Existing Wetlands:** This program will mitigate for the removal of existing wetland areas by enhancing and/or replacing existing wetland areas. Enhancing and replacing existing wetland areas on-airport has been eliminated from further consideration because of the potential safety hazard associated with aircraft bird strikes. Off-site mitigation options that remain under consideration include: mitigation within the Coldwater Creek watershed, mitigation within the Cowmire Creek watershed or a combination.

- **Candidate Mitigation Sites:** Several candidate wetland mitigation sites have been examined; however, none have been formally designated for the Lambert wetland mitigation program at this time. Final mitigation requirements will be determined during the Section 404 permit application review process in consultation with the COE.

The wetland mitigation program will be initiated upon Section 404 permit approval. For any particular affected wetland area, the wetland mitigation (enhancement or replacement) will be completed prior to the removal of the existing wetland.

Floodplains Impacts and Mitigation

The project will result in additional development within the 100-year floodplain. Surface transportation improvements associated with the selected alternative will impact the 100-year floodplain as well. The project will impact approximately 22.3 acres for year 2002 and 35 acres for year 2015 in the Coldwater Creek floodplain. Therefore, this project will result in a floodplain encroachment. Mitigation will be developed to compensate for potential increased flooding caused by the proposed development. Mitigation measures to minimize the floodplain impacts will be accomplished so that the floodplain encroachment would not be considered significant. Floodplains have been avoided to the extent practicable, in light of greater impacts on protected resources in other impact categories. Measures to mitigate floodplain impacts, which are contained in Section 6.3.8 of the FEIS, are summarized here.

- **Limit Fill Within Floodplain Areas:** During design of the proposed runways and taxiways, the placement of fill within the floodplains adjacent to Coldwater Creek will be minimized. However, airport runways and taxiways must be designed to meet specific criteria related to runway profiles and cross slope. Some fill within the floodplain areas is

unavoidable. Infield areas will be graded to reduce potential floodplain impacts.

- **Provide Stormwater Detention Areas:** To offset potential filling of shallow floodplain areas and construction of new impervious areas, detention storage volume may be provided to reduce peak discharges downstream, provide for floodplain storage compensation volume and avoid airport-induced increases of flood elevations upstream. The detention areas will be of shallow depth to minimize standing water in the ponds, thereby reducing attractiveness of the ponds to birds, which are a potential safety hazard to aircraft. Underground detention vaults may also be used. Detention areas will be constructed concurrently with the construction of new impervious areas.

Farmland Impacts

Development will not adversely impact any prime or unique farmlands or soil types as designated by the U.S. Department of Agriculture, Natural Resource Conservation Service. The areas have already been converted into urban uses, such as residential and commercial, and no longer retain their previous agricultural designation. Since there are no impacts anticipated, mitigation measures are not proposed.

Energy Supply and Natural Resources Impacts

Energy consumption at Lambert is expected to increase as activity increases. Aircraft and vehicle energy consumption estimates for the selected alternative are predicted to be less when compared to the No-Build Alternative. This reduction is a consequence of declining aircraft and vehicle fuel consumption resulting from shorter aircraft queuing times and moderate improvements to the roadway network surrounding Lambert. There are no known sources of mineral or energy resources in the Lambert area that will be impacted. Development of the selected alternative will not require the use of unusual materials or those that are in short supply in the Lambert area. Since there are no impacts anticipated, specific measures to mitigate energy consumption are not proposed.

Light Emissions Impacts and Mitigation

Areas sensitive to changes in light emissions are located in the vicinity of the proposed lighting systems. The proposed project will have the potential to create off-airport, light emission impacts. Through shielding and screening techniques, light emission impacts on surrounding residential areas will be minimized. Future light emission levels from airborne aircraft or aircraft operating on the ground are not anticipated to adversely

impact surrounding residential areas. Proposed light emissions mitigation measures, described in Section 6.3.9 of the FEIS, include using light shields to direct light emissions away from residential or other sensitive areas. This measure will pertain primarily to the terminal area and roadway pole-mounted lighting.

Solid Waste Impacts and Mitigation

Alternative W-1W would increase the quantity of solid waste generated at the airport. This is primarily due to increased passenger flow and operations at the airport, increased airport tenant operations, and construction activity. Alternative W-1W would result in the generation of approximately 49,000 more cubic yards per year of solid waste as compared to the existing condition. However, this increase is not anticipated to adversely impact the area's solid waste handling practices or disposal facility capacity. Airport-generated solid waste levels comprise only a small percentage of the total waste produced in the metropolitan area, and existing solid waste disposal facilities have sufficient capacity to accommodate projected future solid waste generation levels.

While specific measures to mitigate for demolition-waste impacts were not required for the preferred alternative, some waste minimization efforts were considered reasonable and proposed by STLAA. These planned efforts to minimize demolition waste, contained in Section 6.3.10 of the FEIS, include the development and implementation of a construction recycling and salvage pilot program. This program will maximize recovery and reuse of construction materials, and reduce the waste entering landfills. Examples of the types of measures which may be considered in the pilot program are: conducting a salvage operation process to remove reusable building components and interior furnishings such as doors, windows, cabinets and plumbing fixtures and segregating building components and interior finishings by type and offering them for resale or reuse. The recycling and salvage management pilot program will be developed and approved prior to initiation of demolition and construction activities.

Several active landfills are located in the vicinity of Lambert. The Laidlaw Combined Sanitary and Demolition Landfill, at its closest point, is located approximately 9,166 feet west of the northwest end of proposed Runway 12W/30W. This is not consistent with FAA’s runway siting guideline of 10,000 feet, which was developed to protect aircraft from potential bird strikes. The new runway will be compatible with all area landfills in accordance with FAA Order 5200.5A, as described in detail in Section 6.3.10 of the FEIS. STLAA will attempt to develop an agreement with the operator of the landfill to implement one of the following options:

- Re-prioritize the landfill utilization plan so that the subject portion (i.e., that portion within the FAA’s 10,000-foot radius of incompatibility) of the landfill is utilized first;

- Require that STLAA be able to direct available fill that cannot be reasonably recycled from the construction projects to the subject portions of the landfill;

- Require that organic waste be capped in the landfill before the new runway is opened and that only clean fill (such as construction materials) be placed in the subject portions of the landfill once the runway is operational.

Should it not be practical to completely fill the subject landfill through the above measures, the STLAA will purchase an easement from the landfill operator which will provide the operator compensation for any lost revenue associated with the unused excess capacity. Any plan to convert or close the landfill must provide for a one-year bird-repelling program. Repelling efforts will begin 6 months before opening of the new runway and continue for a minimum of 6 months thereafter. The program will be in effect from dawn until dusk.

Coastal Barriers and Coastal Zone Management Program Impacts

The proposed improvements will not affect or involve the Coastal Zone Management Program or the Coastal Barriers Resources Act of 1982. Since there will be no impacts, mitigation measures have not been proposed.

Wild and Scenic Rivers Impacts

Review of the U.S. Department of the Interior's National Inventory of Wild and Scenic Rivers indicated that there are no designated "Wild and Scenic Rivers" within a 1,000-foot radius of Lambert. There will be no impact on any rivers designated as "Wild and Scenic"; therefore, mitigation measures are not warranted.

Construction Impacts and Mitigation

Construction impacts resulting from the airport development alternatives, including surface-transportation-related improvements, may include but are not limited to temporary impacts, such as soil erosion, increased air emissions, water quality degradation, noise disturbance and disrupted surface transportation patterns. These temporary impacts are short term in nature and can be minimized through the establishment and utilization of environmental controls and best management practices (BMPs).

To minimize construction impacts, environmental controls as specified in Advisory Circular 150/5370.10A will be included throughout the preparation of the plans and specifications for each of the proposed construction projects. These controls will be

established to minimize the temporary air, water, noise, erosion, and light impacts typically associated with construction activities. STLAA will also incorporate all applicable State of Missouri and St. Louis County construction and environmental control provisions into the plans and specifications developed for all roadway and off-site airport-related improvements. Construction and environmental control measures will be developed as part of the preparation of plans and specifications for each airport development project and will be implemented with the initiation of demolition and construction activities.

Design, Art and Architecture Impacts

Design, art and architectural applications will be a consideration in the design and operation of the proposed improvements to the terminal facilities. Therefore, no mitigation measures are required.

Hazardous Materials Impacts and Mitigation

Several areas in the vicinity of Lambert have been reported to or have the potential to contain hazardous materials, hazardous wastes and/or petroleum products that have resulted in environmental contamination. Some of these sites have undergone preliminary investigations and will either be evaluated further, cleaned up or will require no further action by the responsible parties. Other sites have not been investigated. These sites have been identified and located so that they can be avoided or, if necessary, properly addressed during the planning and development of the proposed airport improvements. It is not expected that the project will involve any sites that are significantly impacted by hazardous materials, petroleum products or environmental contamination. Therefore mitigation measures *per se* are not required. However, BMPs developed as a means to minimize potential impacts are discussed in Section 6.3.12 of the FEIS. Examples of such BMPs include the following practices:

- **Assess and Remediate Contaminated Sites:** In accordance with state regulations, sites that are contaminated with hazardous materials will be fully assessed to determine the types and areas of the impacts. These sites will be cleaned up or other appropriate corrective measures will be undertaken.

- **Conduct Environmental Audits of Properties Prior to Acquisition:** The STLAA will conduct surveys of existing facilities requiring demolition to evaluate any potential involvement with asbestos, lead paint and/or other regulated materials. Site assessments will be included as part of the property acquisition process. Sites found to contain hazardous

wastes, other regulated materials and/or environmental contamination will be properly addressed.

- **Develop/Implement Asbestos and Hazardous Materials Management Plan:** When materials containing asbestos or classified as hazardous are encountered during demolition, appropriate precautions will be followed. These include the employment of certified contractors trained and equipped to work under such conditions and the strict adherence to standards, practices and guidelines governing the handling and disposal of these materials.

Surface Transportation Impacts and Mitigation

Development will impact significant surface transportation facilities located in the airport vicinity. It will require the modification and/or realignment of several local and regional roadways to accommodate the proposed expansion of the airport.

It is estimated that after the year 2010, the additional aviation activity will result in increased associated surface traffic. Sections 5.22 and 6.3.13 of the FEIS provide a detailed analysis of the anticipated environmental impacts and mitigation measures associated specifically with the surface transportation improvements that would result from the proposed development.

Based on the assessment of surface transportation impacts detailed in Section 5.22 of the FEIS, there are no specific mitigation measures required for associated roadway improvements for the selected alternative. However, means to minimize impacts associated with the proposed roadway improvements, including construction of the Lindbergh Tunnel, are presented below.

- **Maintenance of Traffic Plan:** The Missouri Department of Transportation (MoDOT) will develop a staged implementation plan. This staging plan will identify what portions of the proposed roadway improvements will be constructed during each phase of the implementation plan, what the overall sequence of construction will be, and how traffic flow/access will be maintained during the construction phases. This staged construction plan will be coordinated with the appropriate county and city agencies prior to the beginning of construction. The maintenance of traffic plan will be developed during the preliminary engineering and final design of the improvements.

- **Roadway Improvement Safety Plan:** To mitigate the potential for vehicular accidents, fire and/or explosions occurring in the proposed

Lindbergh Tunnel, all applicable state and local fire codes will be adhered to during the design of the tunnel. The tunnel will also be designed to meet or exceed the current MoDOT lighting criteria/standards.

- **Visual Impacts from I-70/Airport Access Improvements:** Retaining walls will be incorporated into the construction design plans and implemented prior to the beginning of any roadway construction. The plans for retaining walls will be developed during the design phase of the I-70/Airport Interchange improvements and are dependent on specific requirements of MoDOT.

MITIGATION SUMMARY

The FAA has provided a comprehensive mitigation program, which establishes measures to mitigate the adverse effects of construction and operation of the proposed development. This program was developed to meet applicable Federal and state requirements and in consideration of local guidelines. The concerns and interests of the public and government agencies were also addressed. The mitigation program is described in Section 6.3, Mitigation, of the FEIS. A summary of the mitigation requirements for Alternative W-1W is contained in Table S.3 in Appendix J of this ROD.

Alternative mitigation measures considered in the FEIS are conditions of approval of the project in this ROD, and the project sponsor, the STLAA, has agreed to them. The FAA will monitor the implementation of these mitigation actions as necessary to assure they are carried out as project commitments. The FAA finds that these measures constitute all reasonable steps to minimize harm and all practicable means to avoid or minimize environmental harm from the selected alternative.